

**CLAIMS**

1. A method of power control for a transmitter in a cellular communication  
5 system comprising the steps of:  
in a first mode of operation  
determining power control data in response to a quality  
parameter of a communication between a base station and a  
communication unit, and  
10 communicating the power control data between the base station  
and the communication unit;  
entering a reduced power mode of operation by communicating power  
down power control data between the base station and the communication  
unit;  
15 operating in the reduced power mode by communicating power control  
data corresponding to a reduced transmit power level; and  
exiting the reduced power mode by communicating power up power  
control data between the base station and the communication unit.
- 20 2. A method as claimed in claim 1 wherein the power control is an uplink  
power control and the power control data is transmitted from the base station  
to the communication unit.
3. A method as claimed in claim 1 wherein the power control is a downlink  
25 power control and the power control data is transmitted from the  
communication unit to the base station.
4. A method as claimed in any previous claim wherein the reduced  
transmit power level is substantially zero.

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5. A method as claimed in any previous claim wherein the power control data communicated in the reduced power mode is power down control values.

6. A method as claimed in any previous claim wherein the reduced  
5 transmit power level allows a reduced data rate communication between the communication unit and the base station.

7. A method as claimed in any previous claim wherein the step of exiting  
comprises transmitting power up power control data until the transmit power  
10 corresponds to a power level determined in response to the quality parameter.

8. A method as claimed in any previous claim 1 to 6 wherein the step of  
exiting comprises transmitting power up power control data until the transmit  
power corresponds to a power level corresponding to the power level prior to  
15 entering the reduced power mode.

9. A method as claimed in any previous claim wherein a duration of the  
reduced power mode is less than a data re-transmission interval associated  
with the communication between the communication unit and the base  
20 station.

10. A method as claimed in any previous claim further comprising the step  
of determining that a quality level of the communication between the  
communication unit and the base station cannot be achieved, and in response  
25 entering the reduced power mode.

11. A method as claimed in any previous claim further comprising the step  
of determining that a transmit power of the transmitter exceeds a threshold  
and in response entering the reduced power mode.

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12. A method as claimed in any previous claim further comprising the step of determining that an interference level exceeds a threshold and in response entering the reduced power mode.

5 13. A method as claimed in any previous claim further comprising the step of determining that a propagation characteristic exceeds a threshold and in response entering the reduced power mode.

10 14. A method as claimed in any claim 13 wherein the propagation characteristic is a path loss of a communication link supporting the communication between the communication unit and the base station.

15 15. A method as claimed in any previous claim further comprising the step of determining that a duration of the reduced power mode exceeds a threshold and in response exiting the reduced power mode.

20 16. A method as claimed in any previous claim further comprising the step of determining that a quality characteristic of a data communication between the communication unit and the base station is improving and in response exiting the reduced power mode.

25 17. A method as claimed in any previous claim further comprising the step of determining that an interference level is below a threshold and in response exiting the reduced power mode.

18. A method as claimed in any previous claim further comprising the step of determining that a propagation characteristic is below a threshold and in response exiting the reduced power mode.

19. A method as claimed in any claim 17 wherein the propagation characteristic is a path loss of a communication link supporting the communication between the communication unit and the base station.

5 20. A method as claimed in any previous claim further comprising the steps of:

determining an expected interference level for a plurality of communication units including the communication unit;

determining a total expected interference level; and

10 entering the communication unit into the reduced power mode if the total expected interference level exceeds a threshold.

21. A method as claimed in any previous claim wherein the power control is operated in accordance with the 3<sup>rd</sup> Generation Partnership Project Technical  
15 Specification TS 25.214.

22. A computer program enabling the carrying out of a method according to claim 21.

20 23. A record carrier comprising a computer program as claimed in claim 22.

24. An apparatus for power control for a transmitter in a cellular communication system, the apparatus comprising:

means for, in a first mode of operation,

25 determining power control data in response to a quality parameter of a communication between a base station and a communication unit, and

communicating the power control data between the base station and the communication unit;

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means for entering a reduced power mode of operation by communicating power down power control data between the base station and the communication unit;

means for operating in the reduced power mode by communicating  
5 power control data corresponding to a reduced transmit power level; and

means for exiting the reduced power mode by communicating power up power control data between the base station and the communication unit.

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